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Does Public Expenditures and Globalization Spur Quality Of Life? Evidence from South Asian Countries

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Abstract

In recent years, health of the people has been progressively affected by globalization and public spending, even as public spending to improve health status of the people in world has been increased dramatically. The study discusses the impact of globalization and public expenditures on two indicators of health or quality of life (infant mortality rate and life expectancy) in South Asian countries. The study found that globalization and public expenditures have negative and significant association with infant mortality rate. On the other hand, globalization and public expenditures have significant and positive relationship with life expectancy. Political globalization is insignificant in our models. The possible reason for this situation is that in South Asian countries, the political system and political institutions are not strong and well-planned and they are unable to influence the quality of life of the people. The results indicate that globalization and public expenditures are contributing to improve the health status in South Asian countries.

Keywords: Globalization, GMM, South Asian Countries.

1. Introduction

Globally, expenditures on health are unequal even with compare to national income of economies, and also those countries has poorer health conditions that spend not much on health (Deaton, 2013; Linden and Ray, 2017). Even though health expenditures should impact the health indicators but it is more consequential to know the effectiveness of modifying the public expenditures into better health conditions. Some economies have achieved better health outcomes than other countries even at low health expenditures per capita. On the contrary, sometimes additional public expenditures bear little association to improve life expectancy among those economies that have a high level of expenditures, and this is the only reason behind concern wealthier countries[1].

Increases in healthcare expenditures have accumulated much consideration among policymakers, scholars and on the public level. However, the primary concern is about the effect of public health expenditures and globalization has impacted on the quality of life (Nazar et al, 2018; Nazar and Chaudhry, 2018). The extensive literature have been provided the empirical evidence of linkage between public expenditures, globalization and quality of life in developed and developing economies (Tsai, 2007; Owen and Wu ,2007; Sapkota, 2011; Alam et al., 2016; Ali and Audi, 2016; Novignon and Atakorah, 2016; Linden and Ray,

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2017; Qadir and Majeed, 2018). However, in spite of this empirical literature, still, there is a need for more empirical literature on the association among public spending, globalization and quality of life in the South Asia region.

2. Literature Review

Literature indicates both negative and positive impacts of globalization on health, it is important to test this association for Pakistan. There are very few studies which investigated the impact of globalization on health. (Alam, Raza, Shahbaz, and Abbas, 2016; Ali and Audi, 2016).

Sapkota (2011) studied the relationship between globalization and quality of life for the panel of 124 countries. They analyzed the impact for gender development, poverty and human development in under-developed countries and it was found that globalization had positively affected human and gender development and significant impact on poverty. Tsai (2007) empirically tested the indirect and direct effects of global flows on human welfare and showed positive and significant impact of political globalization, while social and economic globalization. Bergh and Nilsson (2010) found the impact of globalization on life expectancy by using the panel data of 92 countries. The results confirmed positive and significant impact of globalization on life expectancy. Novignon and Atakorah (2016) investigated the links of trade integration on health for 42 Sub-Saharan African countries by using three health indicators (infant mortality rate, life expectancy and mortality rates). It was found that all health indicators had positive association with trade integration.

Ali and Audi (2016) studied the impact of environmental degradation, globalization and inequality on expectancy of life for Pakistan. The results indicated that life expectancy decreased with increase in environmental degradation and income inequality while there was positive relationship between globalization and life expectancy. Lundborg et al. (2016) found statistically significant twin FE estimates that were about the same size as OLS estimates. The results suggested that education lowers mortality very substantially for both male and female – one year of education is estimated to reduce mortality by 4 to 5 percent – and also that the bias in OLS estimates is low. Qadir and Majeed (2018) analyzed the role of trade openness to improve health status in Pakistan. It was found that trade causes adverse effects on health indicators (infant mortality rate and life expectancy).Akinlo and Sulola (2019) found the impact of health spending on under-five and infant mortality rate for ten African countries and found that public expenditures on health had a significant and positive impact on under-five and infant mortality rate. However, results showed health aid, per capita GDP, immunization and HIV prevalence have significant and negative impact on under-five and infant mortality rate.

3. Data and Methodology

The health indicators are widely affected by globalization and public expenditures as suggested by different economists (Owen & Wu, 2007; Bergh & Nilsson, 2010; Novignon & Atakorah, 2016). On one hand; some economists argue that globalization effects infant mortality negatively and life expectancy positively (Owen and Wu, 2007). Contrary to this, few economists also supports that impact of globalization is positive on infant mortality and negative on life expectancy (Popkin, 2006).

We take life expectancy and infant mortality rate as indicators of quality of life. Our purpose of study is to find the relationship of these indicators with globalization and public

expenditures. Both public health and public education expenditures are taken in this study to represent the overall public expenditures. Lynch et al. (1998) found significant impact of income on indicators of health, while Pamuk et al (2011) found significant impact of per capita GDP on health indicators such as increase in income leads to decrease infant mortality rate. Following these studies, we use GDP per capita as a control variable. Public expenditures are strong predictors of health indicators (Grossman, 1972; Qadir and Majeed, 2018), so this study includes public health expenditures and public education expenditures as independent variables.

Thus the model is developed by adding globalization, public health expenditures and public education expenditures as independent variables while per capita GDP and food availability as control variables. Food production index (FPI) is used as a proxy for food availability.

$lnlexp_{it} = \beta_0+\beta_1 lnlexp_{it-1}+\beta_2 lnglob_{it}+\beta_3 lnhexp_{it}+\beta_4 lneexp_{it}+\lambda Z_{it} + \varepsilon_{it}$ ..... model 1

Here,

lnlexp = log of life expectancy at birth

$lnlexp_{it-1}$ = lagged level of life expectancy at birth

lnglob = log of globalization. Globalization is proxied by 'kof index'

lnhexp = log of public health expenditures

lneexp = log of public education expenditures

Zit = vector of control variables, which includes per capita GDP and food availability which is proxied by food production index (FPI).

Globalization which is represented by kof index is a combination of social, economic and political globalization. Now if we include social, economic and political globalization separately in our models then:

$lnlexp_{it} =\beta_0+\beta_1 lnlexp_{it-1}+\beta_2 lnglob\_eco_{it}+\beta_3 lnhexp_{it}+\beta_4 lneexp_{it}+\lambda Z_{it} + \varepsilon_{it}$ .....model 2

$lnlexp_{it} =\beta_0+\beta_1 lnlexp_{it-1}+\beta_2 lnglob\_soc_{it}+\beta_3 lnhexp_{it}+\beta_4 lneexp_{it}+\lambda Z_{it} + \varepsilon_{it}$ ..... model 3

$lnlexp_{it} =\beta_0+\beta_1 lnlexp_{it-1}+\beta_2 lnglob\_pol_{it}+\beta_3 lnhexp_{it}+\beta_4 lneexp_{it}+\lambda Z_{it} + \varepsilon_{it}$ ..... model 4

Here, glob_soc, glob_eco and glob_pol represent social globalization, economic globalization and political globalization respectively.

Now, another indicator of quality of life (infant mortality rate) is included as a dependent variable to develop model 4 as follows:

$lnimr_{it} =\beta_0+\beta_1 lnimr_{it-1}+\beta_2 lnglob_{it}+\beta_3 lnhexp_{it}+\beta_4 lneexp_{it}+\lambda Z_{it} + \varepsilon_{it}$ ..... model 5

Here,

lnimr = log of infant mortality rate

Now if we include glob_eco, glob_soc and glob_pol separately then new three models will be developed as follows:

$lnimr_{it} = \beta_0 + \beta_1 lexp_{it-1} + \beta_2 lnglob\_eco_{it} + \beta_3 lnhexp_{it} + \beta_4 lneexp_{it} + \lambda Z_{it} + \varepsilon_{it}$ ..... model 6

$lnimr_{it} = \beta_0 + \beta_1 lexp_{it-1} + \beta_2 lnglob\_soc_{it} + \beta_3 lnhexp_{it} + \beta_4 lneexp_{it} + \lambda Z_{it} + \varepsilon_{it}$ ..... model 7

$lnimr_{it} = \beta_0 + \beta_1 lexp_{it-1} + \beta_2 lnglob\_pol_{it} + \beta_3 lnhexp_{it} + \beta_4 lneexp_{it} + \lambda Z_{it} + \varepsilon_{it}$..... model 8

The study uses system-GMM methodology proposed by Holtz-Eakin et al. (1988), Arellano and Bover (1995), and Blundell and Bond (1998). This method can control the endogeneity problem and accounts unobserved country specific effects. This method also allows includes lagged dependent variable as an independent variable while estimating the equation. Consequently, this paper employs the system-GMM to estimate the models.

Data is taken from the World Development Indicators (WDI). Panel data of 8 South Asian countries (Afghanistan, Bhutan, Bangladesh, Nepal, Maldives, Pakistan, India and Sri Lanka) is taken from 1991 to 2018. Globalization is measured by 'kof index of globalization' which includes social, economic and political globalization published by 'kof Swiss Economic Institute'.

4. Findings and Discussion

In table 1, globalization, public health and education expenditures have significant and positive relationship with life expectancy. These findings are consistent with the studies of Owen and Wu (2007), Tsai (2007), Bergh and Nilsson (2010), Ali and Audi (2016), and Alam et al. (2016). Food availability, social, economic and political globalizations have also significant and positive association with life expectancy in model 1, 2 and 3. But in model 4, political globalization has positive but insignificant association with life expectancy.

The possible reason for this situation is that in South Asian countries, the political system and political institutions are not strong and well-planned and in result they are unable to affect the quality of life of the people. The food availability has insignificant association with life expectancy in model 4. The values of diagnostic tests also support the validity of our models and confirm that over-identifying restrictions are valid and there is no serial correlation.

Table 1: Dynamic Panel GMM Results

Dependent Variable: log of life expectancy at birth				
Variables	Model 1	Model 2	Model 3	Model 4
lag of ln(life expectancy)	.978* .0011	.982* .0015	.974* .001	.987* .001
ln(globalization)	.0008* .00003	_____	_____	_____
ln(economic globalization)	_____	.00008* .0000	_____	_____
ln(social globalization)	_____	_____	.00002* .0006	_____
ln(political globalization)	_____	_____	_____	.0004 .0006

ln(per capita GDP)	.0018* .00014	.0012** .0001	-.0006* .0002	.0002** .00009
ln(public health expenditures)	.0009* .0000	.0011* .0001	.0007* .0001	.0004* .00009
ln(public education expenditures)	.0023* .0001	.0019* .0001	.0036* .0002	.002* .0001
ln(food availability)	.001* .0002	.004** .001	-.005* .0002	.0004 .0003
constant	.0348* .0018	.044* .0031	.055* .002	.026* .0019
AR{1} test, p-level	0.37	0.24	0.09	0.13
AR{2} test, p-level	0.31	0.40	0.35	0.32
Hansen Test p-level	0.90	0.93	0.22	0.14
number of years	28	28	28	28
number of countries	8	8	8	8

Note: The figures in ( ) are standard errors. *,** and *** indicates statistical significance at 1%, 5% and 10% respectively.

In table2, globalization, public health and education expenditures have negative and significant association with infant mortality rate. Our results are according to the studies of McNamara (2017), Alam et al. 2016) and Herzer (2017). The results show that globalization and public expenditures are contributing to improve the health status in South Asian countries.

Food availability, social globalization, economic globalization and political globalization have negative and significant association with infant mortality rate in model 5, 6 and 7. In model 7, per capita GDP has positive and significant association with infant mortality rate. Political globalization has negative but insignificant association with infant mortality rate in model 8. The possible reason for this situation is that in South Asian countries, the political system and political institutions are not strong and well-planned and in result they are unable to affect the quality of life of people. The food availability has also insignificant association with infant mortality rate in model 6. The values of diagnostic tests support the validity of our models and confirm that over-identifying restrictions are valid and there is no serial correlation.

Table 2: Dynamic Panel GMM Results

Dependent Variable: log of infant mortality rate				
Variables	Model 5	Model 6	Model 7	Model 8
lag of ln(infant mortality rate)	1.005* .001	.997* .002	1.01* .0021	1.005* .002
ln(globalization)	-.004* .0006	_____	_____	_____
ln(economic globalization)	_____	-.0008* .00007	_____	_____

ln(social globalization)	_____	_____	-.0006* .00007	_____
ln(political globalization)	_____	_____	_____	-.0008 .002
ln(per capita GDP)	-.023* .0023	-.030* .0032	.022* .002	-.014* .002
ln(public health expenditures)	-.009* .0018	-.021* .002	. -.006* .002	-.005* .002
ln(public education expenditures)	-.017* .003	-.009* .002	-.027*** .013	-.022* .003
ln(food availability)	-.015* .005	-.006 .004	-.012** .005	-.011** .005
constant	.098* .017	.042* .014	.044* .015	.056 .016
AR{1} test, p-level	0.11	0.24	0.09	0.14
AR{2} test, p-level	0.27	0.40	0.35	0.32
Hansen Test p-level	0.90	0.93	0.22	0.14
number of years	28	28	28	28
number of countries	8	8	8	8

Note: The figures in ( ) are standard errors . *,** and *** indicates statistical significance at 1%, 5% and 10% respectively.

5. Conclusion

In this study it is concluded that globalization and public expenditures have significant and negative association with infant mortality rate. On the other side, globalization and public expenditures have significant and positive association with life expectancy. Political globalization is insignificant in our models. The possible reason for this situation is that in South Asian countries, the political system and political institutions are not strong and well-planned and in result they are unable to affect the quality of life of the people. The results show that globalization and public expenditures are contributing to improve the health status in South Asian countries.

Based on the results, the governments of South Asian countries should increase their shares of public expenditures on education and health to improve the health status. New hospitals should be built up to facilitate the people. There is a need to make these economies more globalized to improve the health status. Political institutes and system should also be improved for proper provision of health facilities.

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